

AMENDMENTS TO THE CLAIMS

This Listing of Claims will replace all prior versions and listings of claims in this application.

Listing of Claims:

1-3. (Canceled).

4. (Original) A digital filter, comprising a tapped delay line made up of a plurality of delay units, the digital filter multiplying signals of taps by given filter factors and then performing addition and output,

the filter factors have a symmetrical sequence and values are set so that a sum of the sequence is zero and a sum of every other terms is equal to a sum of the other every other terms with opposite signs.

5. (Previously presented) A digital filter according to claim 4, wherein the sequence of filter factors comprises ratios of 1, 0, -9, 16, -9, 0, and 1.

6. (Previously presented) A cascaded digital filter, comprising:

plural digital filters of claim 5 cascaded in a plurality of stages.

7. (Canceled).

8. (Currently amended) A digital filter, comprising a tapped delay line made up of a plurality of delay units, the digital filter multiplying signals of taps by given filter factors and then performing addition and output,

the filter is designed based on first filter factors having a symmetrical sequence in which values are set so that a sum is not zero and a sum of every other terms is equal to a sum of the other every other terms with the same signs, and second filter factors are provided as filter factors for the signals of the taps, the second filter factors being obtained by reversing signs of

values other than a median of the sequence of the first filter factors while causing absolute values of the sequence to remain the same.

9. (Currently amended) A digital filter, comprising a tapped delay line made up of a plurality of delay units, the digital filter multiplying signals of taps by given filter factors and then performing addition and output,

the filter is designed based on first filter factors having a symmetrical sequence in which values are set so that a sum is not zero and a sum of every other terms is equal to a sum of the other every other terms with the same signs, and second filter factors are provided as filter factors for the signals of the taps, the second filter factors being obtained by reversing signs of values other than a median of the sequence of the first filter factors while absolute values of the sequence is caused to remain the same, and subtracting the median of the sequence from a reference value.

10. (Previously presented) The digital filter according to claim 8, wherein the first filter factors comprise a sequence obtained by cascading a basic filter in one or more stages, the basic filter comprising, as filter factors, a sequence comprising ratios of -1, 0, 9, 16, 9, 0, and -1.

11. (Previously presented) The digital filter according to claim 9, the first filter factors comprising a sequence obtained by cascading a basic filter in one or more stages, the basic filter comprising, as filter factors, a sequence comprising ratios of -1, 0, 9, 16, 9, 0, and -1.

12. (Canceled).

13. (Currently amended) A digital filter, comprising a tapped delay line made up of a plurality of delay units, the digital filter multiplying signals of taps by given filter factors and then performing addition and output,

the filter is designed based on second filter factors having a symmetrical sequence in which values are set so that a sum is zero and a sum of every other terms is equal to a sum of the other every other terms with opposite signs, and first filter factors are provided as filter factors for the signals of the taps, the first filter factors being obtained by reversing signs of values other

than a median of the sequence of the second filter factors while causing absolute values of the sequence to remain the same.

14. (Currently amended) A digital filter, comprising a tapped delay line made up of a plurality of delay units, the digital filter multiplying signals of taps by given filter factors and then performing addition and output,

the filter is designed based on second filter factors having a symmetrical sequence in which values are set so that a sum is zero and a sum of every other terms is equal to a sum of the other every other terms with opposite signs, and first filter factors are provided as filter factors for the signals of the taps, the first filter factors being obtained by reversing signs of values other than a median of the sequence of the second filter factors while causing absolute values of the sequence to remain the same, and subtracting the median of the sequence from a reference value.

15. (Previously presented) The digital filter according to claim 13, the second filter factors comprising a sequence obtained by cascading a basic filter in one or more stages, the basic filter comprising, as filter factors, a sequence comprising ratios of 1, 0, -9, 16, -9, 0, and 1.

16. (Previously presented) The digital filter according to claim 14, the second filter factors comprising a sequence obtained by cascading a basic filter in one or more stages, the basic filter comprising, as filter factors, a sequence composed of ratios of 1, 0, -9, 16, -9, 0, and 1.

17. (Original) A digital filter, comprising a tapped delay line made up of a plurality of delay units, the digital filter multiplying signals of taps by given filter factors and then performing addition and output,

the filter is designed based on second filter factors having a symmetrical sequence in which values are set so that a sum is zero and a sum of every other terms is equal to a sum of the other every other terms with opposite signs, and first filter factors are provided as filter factors for the signals of the taps, the first filter factors having a sequence in which values are set so that sums of the first filter factors and the second filter factors serve as reference values.

18. (Original) A digital filter, comprising a tapped delay line made up of a plurality of delay units, the digital filter multiplying signals of taps by given filter factors and then performing addition and output,

the filter is designed based on first filter factors having a symmetrical sequence in which values are set so that a sum is not zero and a sum of every other terms is equal to a sum of the other every other terms with the same signs, and second filter factors are provided as filter factors for the signals of the taps, the second filter factors being obtained by converting the sequence of the first filter factors and setting values so that a sum of the converted sequence is zero and a sum of every other terms is equal to a sum of the other every other terms with opposite signs in the converted sequence.

19. (Original) A digital filter comprising a tapped delay line made up of a plurality of delay units, the digital filter multiplying signals of taps by given filter factors and then performing addition and output,

the filter is designed based on second filter factors having a symmetrical sequence in which values are set so that a sum is zero and a sum of every other terms is equal to a sum of the other every other terms with opposite signs, and first filter factors are provided as filter factors for the signals of the taps, the first filter factors being obtained by converting the sequence of the second filter factors and setting values so that a sum of the converted sequence is not zero and a sum of every other terms is equal to a sum of the other every other terms with the same signs in the converted sequence.

20-51 (Canceled).